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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,636	06/20/2001	Stanley E. Dunn	0366/1E150-US1	7685

7590 11/13/2002

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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 11/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/888,636

Applicant(s)

DUNN, STANLEY E.

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-15 and 19-21 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 9/20/02 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-5 and 16-18 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn (U. S. Pat. No. 4,188,556) in view of Nozawa (U. S. Pat. No. 4,644,209).

Regarding claim 1, Hahn shows an electro-mechanical machine, comprising:

- A field producing assembly (30) having a cup-shaped air gap which is circumferentially disposed about an axis of rotation, the field producing assembly producing a circumferential distribution of magnetic flux in the cup shaped air gap having N periodic extremes of flux density about the axis; and
- A disc-shaped electrical assembly (28) disposed in the air gap and including a circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly;
- The field producing and electrical assemblies being mounted so as to be relatively rotatable about said axis of rotation.

Hahn does not show the cup-shaped electrical assembly including the circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly and a portion of the air gap remote from the axis extending in a direction lateral to the remainder of the air gap, the flux in said portion being substantially perpendicular to the direction of extension of the portion. Hahn just shows the circular array of C non-overlapping coils (30) on an inner face of the electrical assembly.

Nozawa shows the cup-shaped electrical assembly (Figure 8) including the coils on one of an inner (201) and outer face (202) of the electrical assembly and a portion of the air gap (Figures 1-4) remote from the axis extending in a direction lateral to the remainder of the air gap, the flux in said portion being substantially perpendicular to the direction of extension of the portion for the purpose of increasing the space factor and torque generation.

Since Hahn and Nozawa are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include the circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly and a portion of the air gap remote from the axis extending in a direction lateral to the remainder of the air gap, the flux in said portion being substantially perpendicular to the direction of extension of the portion as taught by Nozawa for the purpose discussed above.

Regarding claim 2, it is noted that if combined, Hahn and Nozawa would also show a circular array of C nonoverlapping coils on each of an inner and outer face of

the electrical assembly with the coils on one face being angularly offset from the coils on the other face.

Regarding claim 3, it is noted that Nozawa also shows each coil extending over two angularly disposed surfaces (201, 202) of said electrical assembly.

Regarding claim 4, it is noted that Nozawa also shows each coil being generally L-shaped in profile.

Regarding claim 5, it is noted that Hahn also shows said coils being constructed so that each coil is wound to conduct current in an opposite rotational sense relative to a next adjacent coil (Figure 4A).

Regarding claim 16, it is noted that Nozawa also shows said air gap including a generally disk shaped region to which said axis is generally perpendicular and a region which is generally cylindrical about said axis (Figures 1-4).

Regarding claim 17, it is noted that Nozawa also shows said electrical assembly including a generally disk-shaped portion to which said axis is generally perpendicular and a portion which is generally cylindrical about said axis (Figures 1-4).

Regarding claim 18, it is noted that Nozawa also shows each coil extending over two angularly disposed surfaces of said electrical assembly (Figure 8).

***Allowable Subject Matter***

4. Claims 6-15 and 19-21 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter: The record of prior art does not show a machine comprising:

- A first subset of C coils circularly disposed on one of two angularly disposed surfaces of said electrical assembly and a second subset of C coils cylindrically disposed on the other of said two surfaces, each coil in the first subset being axially aligned with a corresponding coil in the second subset as shown in claims 6 and 19.
- An N circumferentially spaced magnet subassemblies disposed on one side of said air gap, each magnet subassembly being generally L-shaped in a cross-section taken through said axis and being magnetically polarized opposite to a next adjacent magnet subassembly in a direction normal to the air gap as shown in claim 8. Other claims are dependent.

#### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Information on How to Contact USPTO***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL  
November 10, 2002

*DL*

*Dang D Le*